IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

CUTTING EDGE VISION, LLC	§	
	§	
Plaintiff,	§	
	§	
v.	§	Case No. 6:22-CV-00285-ADA
	§	
TCL TECHNOLOGY GROUP CORPORATION, TCL ELECTRONICS HOLDINGS LIMITED, TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, and TCL COMMUNICATION LIMITED	§	JURY TRIAL DEMANDED
	§	
Defendants.		

DECLARATION OF DR. RYAN GARLICK IN SUPPORT OF DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF

1. My name is Ryan Garlick. I am over the age of twenty-one (21) years, of sound mind, and capable of making the statements set forth in this Declaration. I am competent to testify about the matters set forth herein. All the facts and statements contained herein are within my personal knowledge and are believed to be true and correct.

2. I have been asked by Defendants to submit this declaration in support of their brief regarding the proper construction of claim terms set forth in section VII below.

I. EDUCATION AND EXPERIENCE

3. My *curriculum vitae* is attached as Exhibit 1.

4. I have over 20 years of industry and academic experience and I am currently a Clinical Associate Professor in the Department of Computer Science and Engineering at the University of North Texas.

5. I received a BBA in Finance from the University of Texas in 1995. I received an M.S. in Computer Science from Texas State University in 1998, and a Ph.D. in Computer Science from Southern Methodist University in 2003.

6. I developed Android apps that include uploading data to the cloud and taught the upper-division Mobile Development course at the University of North Texas. This course included a component on network data transmission via mobile app.

7. I have been awarded grants for computer science pedagogy and been published in the fields of e-commerce and meta-heuristics. I regularly teach upper-division courses including Internet Programming, Secure E-Commerce, Database Systems, Human-Computer Interfaces, Computer Networking, and IT Project Management. Several of these courses have included components on network-based APIs, networking protocols, and client / server data transmission. I have been featured as a principal in National Geographic and History Channel documentaries

for my work in the field.

8. As the former owner of an e-commerce company, I implemented software development projects including systems and API integrations, user interfaces, and shopping cart platforms with online and mobile payment. My work also included uploading product feeds to Amazon, which included image data for customizable products.

II. COMPENSTATION

9. In consideration for my services, my work on this case is being billed at an hourly rate of $575 per hour, independent of the outcome of this proceeding. I am also being reimbursed for reasonable expenses I incur in relation to my services provided for this proceeding.

III. LEGAL CONSIDERATIONS

10. My understanding of the law is based on information provided by counsel for Defendants.

11. I understand that claim construction is for the Court to decide.

12. I further understand that at times claim terms should be given their ordinary and customary meaning within the context of the patent in which the terms are used, *i.e.*, the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention in light of what the patent teaches.

13. I understand that to determine how a person of ordinary skill at the time of the claimed invention would understand a claim term, one should look to those sources available that demonstrate what a person of skill in the art would have understood disputed claim language to mean. Such sources include the words of the claims themselves, the remainder of the patent's specification, the prosecution history of the patent (all considered "intrinsic" evidence), and

"extrinsic" evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.

14. I understand that the context in which a term is used in the asserted claim can be highly instructive. Likewise, other claims of the patent in question, both asserted and unasserted, can inform the meaning of a claim term. For example, because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.

15. I understand that a person of ordinary skill in the art is deemed to read a claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. For this reason, the words of the claim must be interpreted in view of the entire specification. The specification is the primary basis for construing the claims and provides a safeguard such that correct constructions closely align with the specification.

16. I understand that claim terms must be construed in a manner consistent with the context of the intrinsic record, which includes the patent's prosecution history. The prosecution file history provides evidence of how both the Patent Office and the inventor(s) understood the terms of the patent, particularly in light of what was known in the prior art.

17. I understand that while intrinsic evidence is of primary importance, extrinsic evidence, *i.e.*, evidence external to the patent and prosecution history, including expert opinions, dictionaries, and learned treatises, can also be considered. For example, technical dictionaries may help one better understand the underlying technology and the way in which one of skill in the art might use the claim terms. Extrinsic evidence should not be considered, however,

divorced from the context of the intrinsic evidence.

18. I understand that patents are subject to a definiteness requirement, which means they must conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as the invention. I understand a patent satisfies the definiteness requirement if its claims, read in light of the specification delineating the patent, and the prosecution history, inform, with reasonable certainty, those skilled in the art at the time of the invention about the scope of the invention.

19. I understand that, although a Court may correct an obvious error in a patent claim, a Court may only do so if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.

IV. TASK SUMMARY

20. I have been asked to review U.S. Patent Nos. 10,063,761 (the "'761 patent") and 11,153,472 (the "'472 patent"). I have also been asked to provide my opinion regarding certain terms as listed in section VII below.

21. In preparing this declaration, I have considered the '761 patent, the '472 patent, and their respective prosecution histories as well as the general knowledge of those familiar with the field of transmitting data, such as pictures, over a network to a server as of October 17, 2005, the date of the earliest application shown on the faces of the '761 and '472 patents.

V. PATENTS-AT-ISSUE

A. The '761 Patent

22. I understand that the '761 patent generally relates to a camera system that allows pictures to be stored, selected, and automatically transmitted to a remote server under certain

conditions, such as during periods of cheaper network access. ('761 patent, 12:64-13:1.)

23. Figure 3 of the '761 patent is reproduced below:

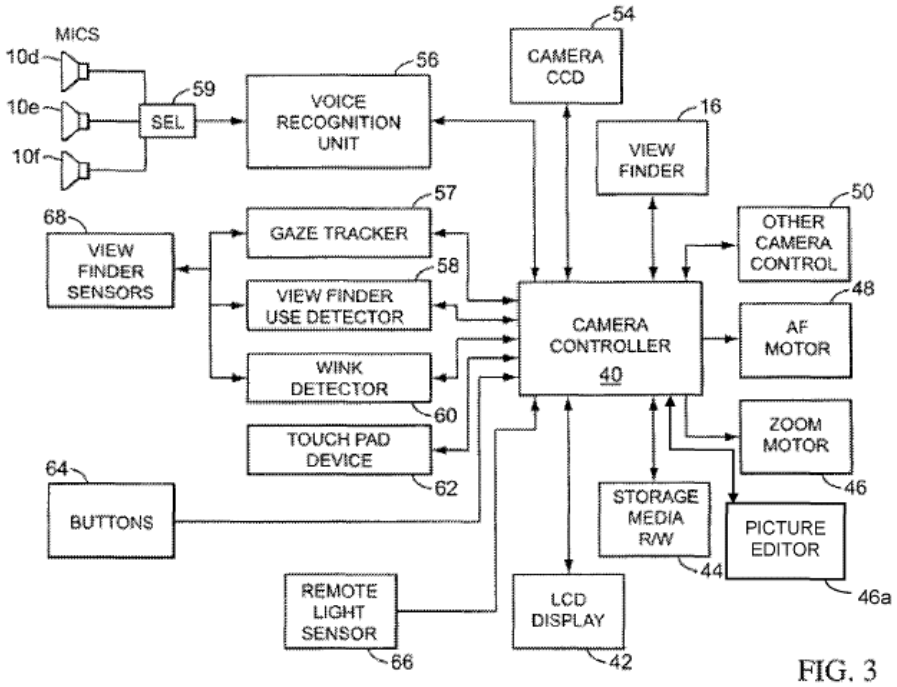


FIG. 3

24. I understand that Cutting Edge Vision LLC ("CEV) asserts claims 1-4 and 16 of the '761 patent against Defendants.

25. Claim 1 recites:

> 1. A camera system comprising:
>
> (a) a lens;
>
> (b) a cellular interface;
>
> (c) an image sensor configured to take pictures;
>
> (d) a non-volatile local memory configured to store one or more pictures;
>
> (e) a touch sensitive display;
>
> (f) a controller configured to:
>
> (i) receive, via the touch sensitive display, a user selection of an upload option that instructs the device to confine automatic picture upload to periods without potential

cellular network access fees:

(ii) automatically connect to a remote picture hosting service and cause an upload of one or more pictures stored in the non-volatile memory to the remote picture hosting service via the cellular interface, after receiving:

(1) data from the cellular interface used by the controller to determine that the upload is allowed based on the selected upload option,

(2) an indication that the system is connected to the internet via the cellular interface; and

(3) an indication from the local memory that a user has elected an option to designate at least one picture from the group of pictures stored in the local memory to be uploaded to the remote picture hosting service.

26. Claim 2 recites:

2. The camera system of claim 1 wherein the remote picture hosting service is associated with an email account.

27. Claim 3 recites:

3. The camera system of claim 1 further comprising:

(g) a voice recognizer (1) coupled to and configured to receive and process sounds transduced by at least one microphone, and (2) configured to recognize one or more words associated with an operation for the camera;

(h) the controller further configured to cause the camera to perform the operation associated with the one or more words recognized by the voice recognizer.

28. Claim 4 recites:

4. The camera system of claim 1, wherein the remote picture hosting service includes printing services.

29. Claim 16 recites:

16. The camera system of claim 1 wherein the controller is configured to cause uploaded pictures to thereafter be transmitted to another party.

B. The '472 Patent

30. I understand that the '472 patent also generally relates to a camera system that allows pictures to be stored, selected, and automatically transmitted to a remote server under certain conditions, such as during periods of low network usage or periods of cheaper network access. ('472 patent, 13:3-7.)

31. Figure 3 of the '472 patent is reproduced below:

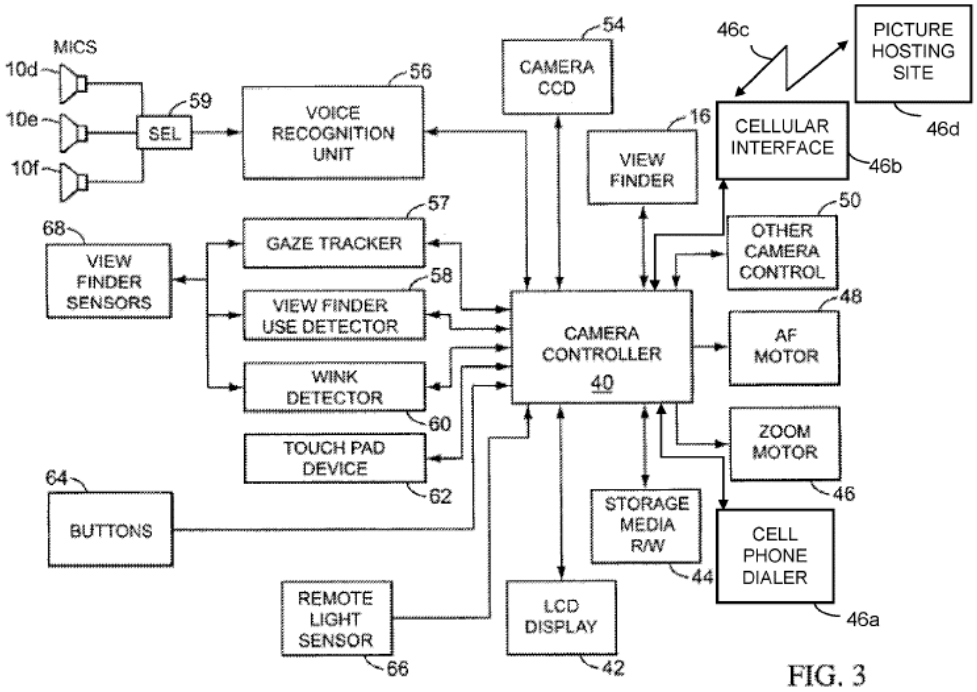


FIG. 3

32. I understand that CEV asserts claims 1, 2, 5, and 6 of the '472 patent against Defendants.

33. Claim 1 recites:

> 1. A camera system comprising:
>
> (a) a lens;
>
> (b) a cellular interface;
>
> (c) an image sensor that is coupled to the lens and operable to capture pictures;

(d) a non-volatile local memory that is coupled to the image sensor and operable to store pictures captured by the image sensor;

(e) a touch sensitive display;

(f) a controller coupled to the cellular interface, the non-volatile local memory and the touch sensitive display, and configured to:

(i) receive, via the touch sensitive display, a user selection of an upload option that instructs the camera system to confine automatic picture upload to periods without potentially increased cellular network access fees;

(ii) automatically connect to a picture hosting service that is internet-based and enable an upload to the picture hosting service, over the internet and via the cellular interface, of a group of image sensor-captured pictures stored in the local memory, during any period detected by the controller in which all three of the following conditions are met:

(1) the upload is allowed because the system is within one of the periods without potentially increased cellular network access fees, as determined using data from the cellular interface,

(2) the system is connected to the internet via the cellular interface; and

(3) at least one image sensor-captured picture stored in the local memory has been designated through the touch sensitive display as part of the group of pictures to be uploaded to the picture hosting service.

34. Claim 2 recites:

2. The camera system of claim 1, wherein the picture hosting service includes printing services.

35. Claim 5 recites:

5. A camera system comprising:

(a) a lens;

(b) a cellular interface;

(c) an image sensor that is coupled to the lens and operable to capture pictures;

(d) a non-volatile local memory that is coupled to the image sensor and operable to store pictures captured by the image sensor;

(e) a touch sensitive display;

(f) a controller coupled to the cellular interface, the non-volatile local memory and the touch sensitive display, and configured to:

(i) display on the touch sensitive display a user-selectable input that instructs the camera system to confine automatic picture upload to periods without potentially increased cellular network access fees;

(ii) automatically connect to a picture hosting service that is internet-based and enable an upload to the picture hosting service, over the internet and via the cellular interface, of a group of image sensor-captured pictures stored in the local memory, during any period detected by the controller in which all the following conditions are met:

(1) the controller has received from the display a selection of the user-selectable input that instructs the camera system to confine automatic picture uploads to periods without potentially increased cellular network access fees;

(2) the controller has confirmed that the camera system is within a period without potentially increased cellular network access fees, as determined using data from the cellular interface;

(3) the system has a connection to the internet via the cellular interface; and

(4) at least one image sensor-captured picture stored in the local memory has been

> designated through the touch sensitive display as part of the group of image sensor-captured pictures to be uploaded to the picture hosting service.

36. Claim 6 recites:

> 6. The camera system of claim 5, wherein the picture hosting service includes printing services.

VI. A PERSON OF ORDINARY SKILL IN THE ART

37. In my opinion, a person of ordinary skill in the art for the '761 patent and the '472 patent as of October 17, 2005 would have a bachelor's degree in computer science, computer engineering, electrical engineering or other similar degrees, and two years of experience in wireless client / server data transmission. More work experience can compensate for less education, and vice versa.

VII. ANALYSIS

A. "controller" ('761 Patent – Claim 1; '472 Patent – Claims 1, 5)

38. In my opinion, the phrase "controller" that is "configured to" perform several functions is indefinite in the context of the claims.

39. I understand that a limitation in a patent claim can be expressed as a "means for" performing a function. I understand that such "means-plus-function" claim limitations cover only the corresponding structure disclosed in the patent specification, including the patent drawings. I further understand that a claim limitation may be interpreted as "means-plus-function" even if it does not use the phrase, "means for," although claim limitations are presumed not to be means-plus-function limitations when the phrase "means for" is not used. I further understand that the phrase "configured to" can, in certain instances, result in a claim limitation being construed as "means-plus-function" even where the limitation does not use the phrase "means for."

40. The claims recite that the controller is "configured to" perform various functions, including "receive . . . a user selection of an upload option that instructs the device to confine automatic picture upload to periods without" either "potential cellular network access fees" ('761 patent) or "potentially increased cellular network access fees" ('472 patent). The claims also recite that the controller is "configured to" "automatically connect to a [] picture hosting service [and] . . . cause [or enable] an upload of one or more pictures stored in the non-volatile memory to the remote picture hosting service via the cellular interface." These functions are results-oriented, and a POSITA would not be informed by descriptions of the functions themselves as to any corresponding structure, software or hardware.

41. Figure 3 of the patents-in-suit depicts a "camera controller 40" as an empty box, and the specification does not provide any detail regarding the structure and composition of the "camara controller," other than to say it is preferably a microprocessor. ('761 patent at 12:34-35). In particular, the specification does not disclose any algorithms, routines, or instructions by which to perform the claimed functions that the controller is "configured to" perform. For example, the specification is silent on how to upload the pictures to the remote server during "periods without potential cellular network access fees" or "periods without potentially increased cellular network access fees."

42. If the claim terms following "configured to" are considered an algorithm, a POSITA would be unclear about implementing the logic contained in the claims. For example, in claim element 1(f)(i) of the '472 patent, the controller is configured to "receive…a user selection of an upload option that instructs the camera system to confine automatic picture upload to periods without potentially increased cellular network access fees;" However, claim element 1(f)(ii)(1) of the '472 patent subsequently recites that "the upload is allowed because the

system is within one of the periods without potentially increased network access fees, as determined using data from the cellular interface" Aside from the ambiguity of "potentially increased cellular network access fees" as I explain below, regarding the '472 patent claim 1, it is unclear if the controller is configured to allow uploads based on user selection or "data from the cellular interface," that is somehow obtained over the network.

43. As such, it is my opinion that "controller" fails to reasonably inform one having ordinary skill in the art of the proper scope of this term.

B. "the device" ('761 Patent – Claim 1)

44. In my opinion, the phrase "the device" in the context of the '761 patent claims is indefinite.

45. Before the term "the device" is first introduced in claim 1(f)(i) of the '761 patent, there is no mention of any "device" in the claim.

46. A "device" is a generic term that generally means any element or component that is designed for a specific use or purpose. Thus, reading the patent claims and specification, a POSITA would be left to wonder what "the device" refers to: "controller," "touch sensitive display," "camera system," "cellular interface," something that contains a "camera system," or any of the components recited before the introduction of "the device."

47. When the specification mentions "device," it is used in conjunction with an adjective component in different contexts, such as "camera input device" ('761 patent at 2:19-20), "detection device" ('761 patent at 3:29), "optically sensitive device" ('761 patent at 6:25 and 6:28), "light emitting device" ('761 patent at 6:30), "gaze tracking device" ('761 patent at 8:12), "touch sensitive input device" ('761 patent at 10:11-12), "light detection device" ('761 patent at 10:60), and/or "cellular communication device." ('761 patent at 13:56). Thus, the "device" has

been used in various contexts in the specification, from a TV (‘761 patent at 4:1), to microphones (’761 patent at 6:18-19), to laser sensors (‘761 patent at 6:24-25), to components within the camera (‘761 Figure 4 item 72, 10:66 and 11:13), to “other cellular devices” (‘761 patent at 15:3-4).

48. If “the device” in claim 1 of the ’761 patent is the “camera system,” then the camera system/device in claim 1 of the ‘761 patent would include a cellular interface as specified in claim 1(b). However, there is no such cellular interface (or *any* networking interface) in the functional block diagram of the claimed camera system in Figure 3 of the ’761 patent.

49. As such, it is my opinion that “the device” fails to reasonably inform one having ordinary skill in the art of the proper scope of this term.

C. “periods without potential cellular network access fees” (’761 Patent – Claim 1)

50. In my opinion, this phrase is indefinite in the context of the claims.

51. In my opinion, this term is different from the term “periods without potentially increased cellular network access fees” in claims 1 and 5 of the ’472 patent. A POSITA would have understood the scope of this term to be “periods” without *any* potential cellular network access fees, increased or not.

52. A POSITA would find that the only portion of the specification that discusses limiting a “cellular network access fee” is the following: “the inventive camera system is preferably operable so that the automatic connection is made only at certain times of the day or weekends … so as to confine picture transmission to periods of low network usage or periods of cheaper network access, etc.” (’761 patent at 12:64-13:1). However, in my opinion, “cheaper network access” is different from “without potential cellular network access fees.”

53. Indeed, because cellular network operators run for-profit businesses, it is not

possible for a typical customer of a cellular network to have a "period without potential cellular network access fees." Setting aside the ambiguity of the term "potential," the patent specification seems to agree by noting that "[c]ellular service providers typically charge a fee for internet access or emailing and so an automatic feature to connect to the net or send email for the purposes of transmitting pictures can improve revenue generation for these companies." ('761 patent at 14:31-35).

54. As such, it is my opinion that "periods without potential cellular network access fees" fails to reasonably inform one having ordinary skill in the art of the proper scope of this term.

D. "upload … pictures …" ('761 Patent – Claim 1; '472 Patent – Claims 1, 5)

55. In my opinion, the term "upload … pictures" is indefinite in the context of the claims because a POSITA would not be able to ascertain with reasonably certainty what specific pictures are uploaded under what scenarios.

56. The '472 patent claims recite enabling the upload of "a group of image sensor-captured pictures" upon the condition that at least one image have been designated as "**part of** the group of [image sensor-captured] pictures to be uploaded." The '761 patent claims are similarly worded. Both seem to indicate that selecting an image from a "group" is sufficient to condition the upload of the "group" of images.

57. The following is the only possible relevant section of the specification: "The camera system … includes the ability for the user to indicate to the camera which pictures to offload so that the camera offloads only those pictures that are so indicated by the user." ('761 patent at 11:64-12:1). A POSITA would have understood that this section only discloses uploading the pictures that have been chosen.

58. The ‘761 patent specification also refers to a camera system sending pictures “when it has a predetermined number of pictures” (‘761 patent at 13:14-15), although no mention of user designation of the pictures is provided.

59. As such, it is my opinion that “upload … pictures” fails to reasonably inform one having ordinary skill in the art of the proper scope of this term.

E. “group of … pictures” (’761 Patent – Claim 1; ’472 Patent – Claims 1, 5)

60. In my opinion, the term “group of … pictures” is indefinite.

61. The word “group” appears only in the claims but not in the specification.

62. A POSITA would have understood that “group” generally refers to multiple things together due to their common characteristics. But the “group of … pictures” here is vague and ambiguous because a POSITA would not know whether the “group” includes all pictures stored in the memory or what subsets of the stored pictures. In ’761 patent claim element 1(f)(ii)(3), “a user has elected an option to designate at least one picture from the **group of** pictures stored in the local memory to be uploaded…” If the user is designating pictures from all pictures stored in memory, then “group of” is unnecessary. Thus, “group of” is assumed to have meaning, but the specification does not assist in the clarification of this term.

63. In my opinion, this term is indefinite because a POSITA has no way of knowing what constitutes the “group of pictures.”

F. “periods without potentially increased cellular network access fees” (’472 Patent – Claims 1, 5)

64. In my opinion, the term “periods without potentially increased cellular network access fees” is indefinite.

65. A POSITA would have found the closest specification disclosure that describes cellular network access fees to be the following: “the inventive camera system is preferably

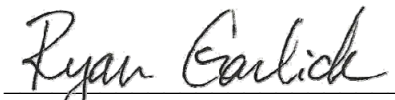
operable so that the automatic connection is made only at certain times of the day or weekends … so as to confine picture transmission to periods of low network usage or periods of cheaper network access." ('472 patent at 13:3-7). This portion, and other parts, of the specification do not provide guidance for a POSITA to (1) determine which situations qualify as potentially increased fees; (2) determine and measure how much potential increase of the network access fees is needed; and (3) determine the boundary regarding the amount of fees required to classify as "potentially increased … fees."

66. A POSITA would have understood that whether network access fees are potentially increased or not would depend on the details of a user's cellular network plan. For example, a fixed-price cellular network package would not have any potentially increased network access fees, while the same user on a non-fixed-price cellular network package could. As a result, a customer using the same cell phone will have a different outcome with different cellular network plans.

67. As such, it is my opinion that "periods without potentially increased cellular network access fees" fails to reasonably inform one having ordinary skill in the art of the proper scope of this term.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: November 21, 2022



Ryan Garlick, PhD.

EXHIBIT 1

Ryan Garlick, PhD

Professional Summary

Dr. Garlick has over 20 years of industry and academic experience. He is currently a Clinical Associate Professor in the Department of Computer Science and Engineering at the University of North Texas. Dr. Garlick has been awarded grants for computer science pedagogy and has published in the fields of e-commerce and meta-heuristics. He regularly teaches upper-division courses including Internet Programming, Secure e-Commerce, Database Systems, Human-Computer Interfaces, Computer Networking, and IT Project Management. He has been featured as a principal in National Geographic and History Channel documentaries for his work in the field.

Dr. Garlick has designed and implemented numerous software development projects including mobile apps incorporating location and sensor data, systems and API integrations, user interfaces, and shopping cart platforms with online and mobile payment through his consulting and academic work and as the owner of an e-commerce company.

Dr. Garlick has extensive experience with patents in the networking, mobile and e-commerce industries. Over the past eight years, he has provided technical expertise regarding the validity and infringement of patents and the fulfillment of software development contracts. He has been qualified as an expert by the Court, provided technology tutorials, authored several expert reports, performed multiple code reviews, and given testimony by deposition and at trial.

Areas of Expertise

Software Development, Web and Mobile App Development, e-Commerce, Payment Gateways, Shopping Cart Software, Real Estate and Financial Software, Mobile Location and Sensor Data, Order Processing Automation, Miva Merchant, WooCommerce (WordPress), Amazon Seller Fulfillment, PayPal and Shipping Integration, PHP, Java Programming, APIs.

Education

PhD in Computer Science — ***May 2003***
SOUTHERN METHODIST UNIVERSITY — *Dallas, TX*

Master of Science in Computer Science — ***December 1998***
TEXAS STATE UNIVERSITY — *San Marcos, TX*

BBA in Finance with Honors — ***August 1995***
THE UNIVERSITY OF TEXAS AT AUSTIN — *Austin, TX*

Professional Experience

Clinical Associate Professor — ***University of North Texas***
November 2021 - present — *Denton, TX*
- Chaired Clinical Faculty Search Committee

Principal Lecturer — ***University of North Texas***
September 2009 – November 2021 — *Denton, TX*
- Created Android Development Course with Industry Collaboration
- Murphy Center for Entrepreneurship Faculty Fellow
- Created Asynchronous Online Curricula for Multiple Courses

Visiting Assistant Professor — ***University of North Texas***
August 2003 – August 2009 — *Denton, TX*
- Created Courses in Mobile Development and Secure e-Commerce
- Taught C++, Java, and Artificial Intelligence (AI)
- Developed Innovative Programming Coursework Used in Several Countries

Managing Member / Owner — ***Wordyisms LLC***
March 2000 – August 2022 (business sold) — *Dallas, TX*
- Directed all e-Commerce Activities from Order Acquisition to Fulfillment and Accounting
- Integrated Systems and APIs for US Based Production and Shipping Facility
- Created Software Platform for Automated Licensing and Royalty Reporting from Sales Data

Founder — ***SourceTVFrames.com***
January 2010 – present — *Dallas, TX and Austin, TX*
- Created PHP and JavaScript e-Commerce Site for Designing and Selling Frames for Televisions
- Developed Online Custom Product Designer and Branded Affiliate Program
- Manage Web Development, Security, and Marketing

Qualifications

ACADEMIC Professional Member of the Association for Computing Machinery (ACM). ACM Programming Team co-Coach at the International Collegiate Programming Competition World Finals in Harbin, China. Proficient Author and Public Speaker

INDUSTRY Led Security, Development and Strategy for e-Commerce and Real Estate Sites. Built "SourceTVFrames" e-Commerce Startup to Multi-State Distribution

DEVELOPMENT Developed "Mobile World Records" Location Based Cloud Storage Android App (>5,000 Downloads). Convergence Technology Center Mobile Development Workshop Leader

TECHNOLOGIES Full Stack e-Commerce Expertise including Shopping Cart Development, Payment Gateways, e-Commerce Security, User Interface, Integration with Manufacturing, Shipping Platforms, ShipStation, Zapier, Amazon Integration, Bitcoin Payment, Miva Merchant, WooCommerce (WordPress), Web and Mobile Development, Android Development. Proficiency in Real Estate and Financial Software, Java, PHP, and JavaScript

REAL ESTATE Texas Real Estate License # 428910. Developed and Marketed "QuickNet" Financial Software for Estimating Real Estate Closing Costs. Proficiency in Real Estate Finance and Investment

Television and Media

The Hunt for The Zodiac Killer — *History Channel / Karga 7 Pictures*
CODE TEAM MEMBER ON 5-PART SERIES INVESTIGATING ZODIAC CRIMES — *2017*

It Was Him — *Spike TV / Objective Media Group*
ZODIAC CIPHER INTERVIEWEE AND CONSULTANT — *2017*

The Code Breakers — *National Geographic Channel*
PRINCIPAL – HOUR LONG PROGRAM ON CODES AND CIPHERS — *2009*

Zodiac Ciphers and Codebreaking — *Various*
NUMEROUS RADIO, PODCAST, AND PRINT INTERVIEWS — *2009-present*

Courses Taught

UNDERGRADUATE (CSCE COURSES)

1030 **Computer Science I :** C / C++, Java

1040 **Computer Science II :** C / C++, Java

3055 **IT Project Management :** Microsoft Project, Agile, Git, Basecamp, Project Finance, Google Analytics

3210 **Symbolic Processing :** Project Course Attempting to Decode the Zodiac-340 Cipher

3220 **Human Computer Interfaces :** UI / UX, Adobe XD, Web Accessibility, iOS UI and Android UI Kits

3410 **Advanced Programming :** Android Development, Location Services, Device Sensors, Cloud Storage

3420 **Internet Programming :** PHP, JavaScript, Node.js, HTML / CSS , Client / Server, REST APIs, AWS

3530 **Introduction to Computer Networks :** Ethernet, TCP / IP, Application Layer

4310 **Introduction to Artificial Intelligence :** Genetic Algorithms, Neural Networks, Heuristics

4350 **Database Systems :** SQL, MySQL, NoSQL, Amazon Web Services DynamoDB

4410 **Software Development I & II :** Year-Long Capstone Project Courses

4560 **Secure Electronic Commerce :** Public Key Infrastructure (PKI), Shopping Cart Development, Payment Gateways, eCommerce Security, SSL, TLS, Authentication and Authorization, Blockchain

4890 **Directed Studies :** One-on-one or Small Cohort Classes on Mobile and App Development

4901 **Software Development Capstone :** Topics Course for Small Groups

4905 **IT Capstone :** Topics Course – Cryptocurrency Mining

GRADUATE (CSCE COURSES)

5210 **Artificial Intelligence :** Genetic Algorithms, Meta-Heuristics

5560 **Secure Electronic Commerce :** Project-Based Course Creating a Real-World e-Commerce Site

Grants Awarded

Development of Computer Science Curricula — *National Convergence Technology Center*
$13,000 — *2019, 2020*

UNT STARS Student Development — *NSF STARS Computing Corps Grant*
$14,000 — *2012*

Social Entrepreneurship in an iPhone Development Course — *Texas Transformative Instruction Initiative Grant*
$3,000 — *2010*

Using ALICE as a Bridge to Java in CS1 — *UNT Transformative Instruction Initiative Grant*
$9,637 — *2008*

Selected Presentations

Cracking the Codes of the Zodiac Serial Killer — *Osher Lifetime Learning Institute*
Invited Speaker, Invited Keynote Speaker — *Denton, Texas 2022, 2019, 2018*

Entrepreneurial Learning in a Secure e-Commerce Course through Creating Competitive Real-World Sites — *EEE 2014 E-Commerce Conference*
Presenter — *Hong Kong 2014*

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